September 2008

BioEnergy International, LLC. a Biorefinery Company

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BioEnergy International, LLC

a Biorefinery Company

Umass TIMBR Cellulosic Conference
September 19, 2008

Management Team, BioEnergy's X Factor

Stephen J. Gatto, Chairman, CEO
Advisor to President Clinton and Bush

Dr. Lonnie Ingram, Chief Science Officer
University of Florida

Dr. Joseph P. Glas, SVP R&D
VP DuPont Biotechnology

Dr. Mohammed Moniruzzaman, VP R&D
Genencor International

Samuel McConnell, SVP Development
Project finance over $2 B

Rudy Fogleman, VP Operations
Commercial ethanol plant experience

Experience
Proven track record
Recognized worldwide

President Bush on BioEnergy's Chief Science Officer:

"on the leading edge of change"

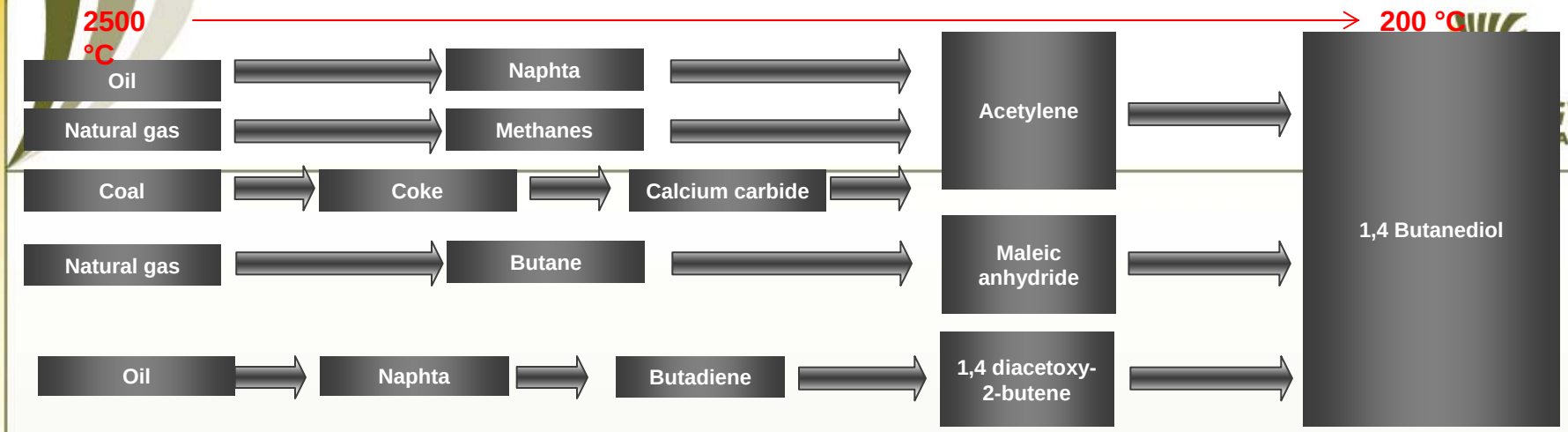
Our Vision - the BioRefinery



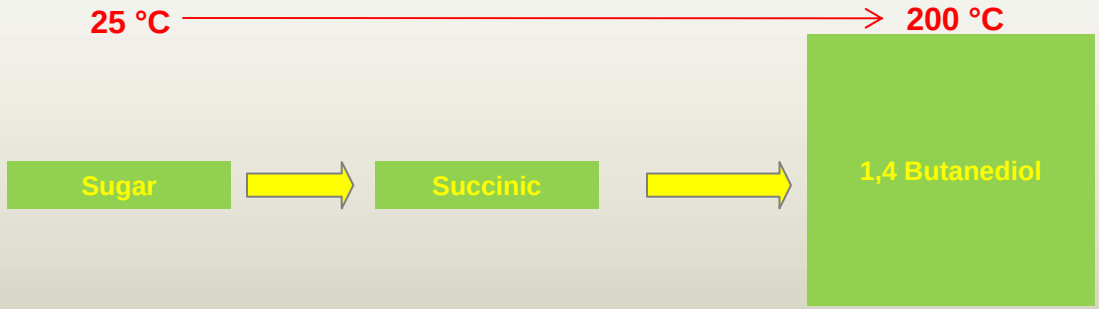


A Day When A Pound Of Sugar Can Replace A Barrel of Crude For Everything From The Fuel We Put In Our Cars To The Plastics and Fabrics We Use In Our Everyday Lives .

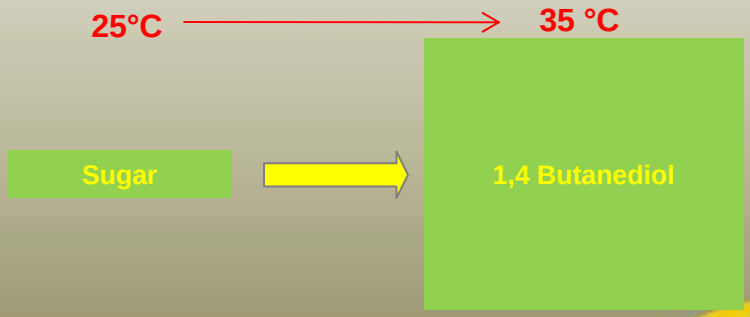
Today's oil and gas bases technology



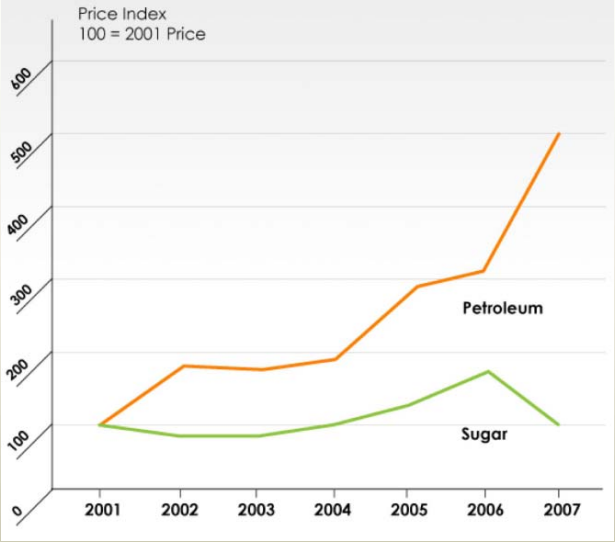
BioEnergy's second generation technology – 3 years from today



BioEnergy's second generation technology – 7 years from today



BioEnergy's margin comparison



Source: EIA World Crude Oil Price; USDA Raw Sugar Price

Feedstock	Cost of Sugar ($ / lb)	Ethanol Gross Margin ($ / lb sugar)	Bio-polymer Gross Margin ($ / lb sugar)
Corn	$0.08-0.17	$0.01-0.10	$0.51
Sugar Cane	$0.08-0.10	$0.08-0.10	$0.58
Cellulosic	$0.03-0.08	$0.10-0.15	$0.60

The focus is on diversifying plant revenues while building the sustainaible sugar platform.
Cellulosic technology is not the end game;
***rather it is a means to an end*.**

The Market

Biofuels

→ 90 billion gallons

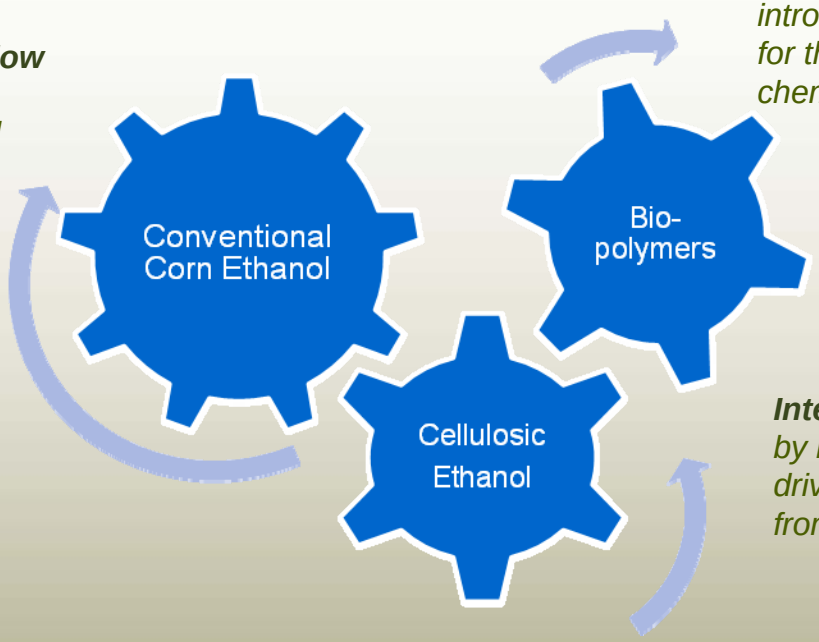
Bio-based chemicals and polymers

→ 350 billion pounds

The Strategy

Secure cash flow *from traditional corn plants and cheap sugar platforms*

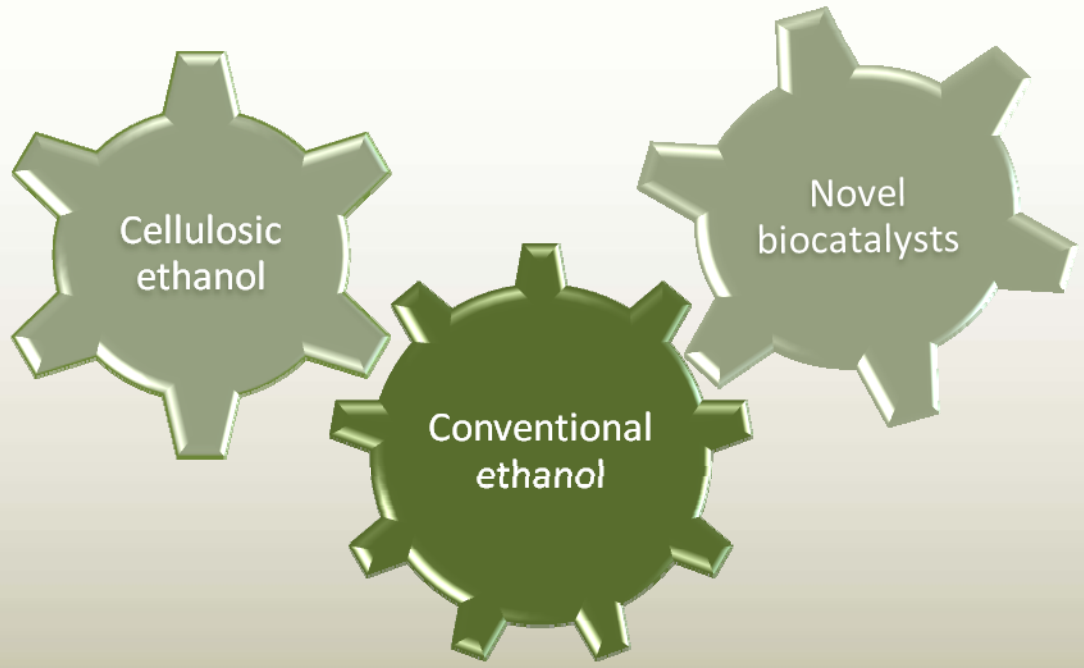
Diversify revenue *by introducing novel biocatalysts for the manufacture of green chemicals and biopolymers*



Integrate cellulosic technology *by retrofitting or building plants to drive down costs and move away from food-based raw materials*

New Paradigm needs a Beginning, Middle and End

Business Overview



Our strategic business model is supported by proprietary technology; BioEnergy is a leader in the new industrial revolution.

Biorefinery Platform
Cellulosic Destination Sites

BIOENERGY INTERNATIONAL

Clearfield, Pennsylvania

- 110Mgpy, Fagan EPC; ICM Design
- 5-year off-take agreement with Getty Oil (provides natural hedge against commodity fluctuations)
- $22M in grants and loans from State of Pennsylvania
- Closed $205M debt financing with WestLB, TD Banknorth& Stern Brothers Feb ’08
- Design underway for co-location of pilot plant

Biorefinery Platform
Cellulosic Destination Sites

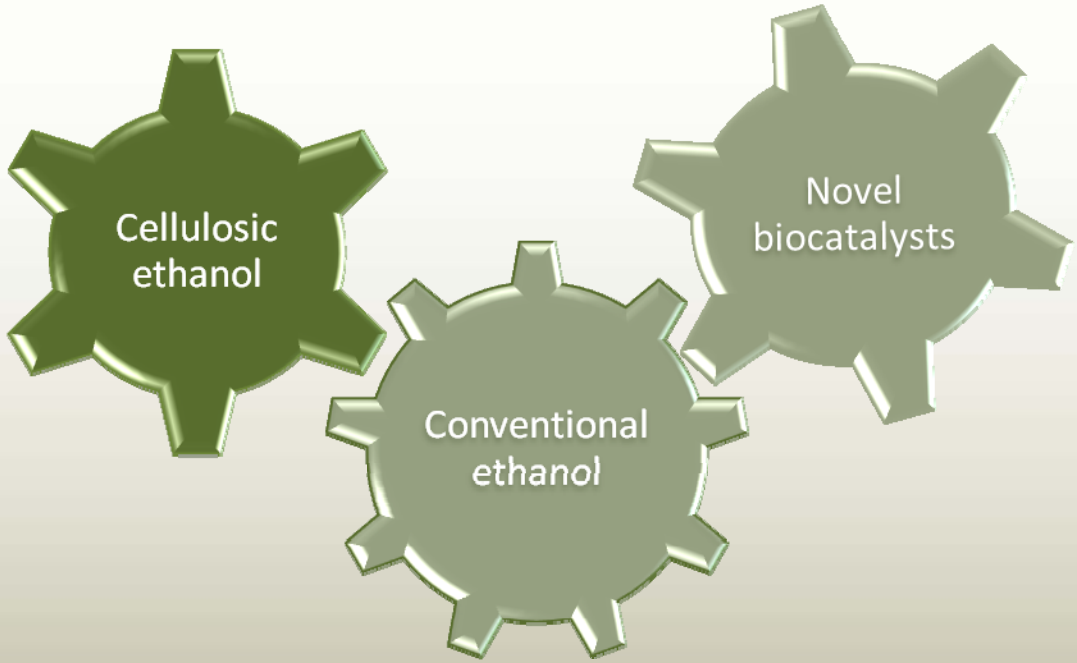
BIOENERGY INTERNATIONAL

Lake Providence, Louisiana

- 110Mgpy expandable to 220Mgpy
- Key permits in hand
- $20M in grants
- Site lease executed with Port Authority
- Mississippi River location provides logistics options for diverse feedstocks and product output

Business Overview

Cellulosic technology platform

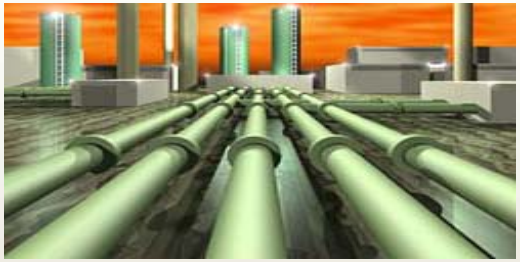


Led by Dr. Mohammed Moniruzzaman and a world-renowned team of molecular biologists, engineers, and chemists, BioEnergy uses its proprietary technology to advance the development of its cheap sugar platform.

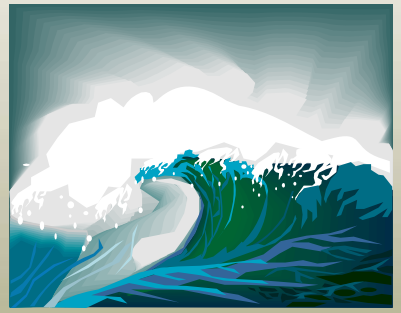
Innovative, Integrated Cellulosic Platform
site as important as technology

BIOENERGY INTERNATIONAL

The road to low cost fuels is in the feedstock…



1st wave technology:
Grain based

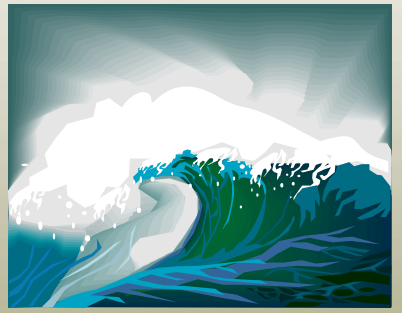


< Different technologies,
different strategies

The gap is closing fast

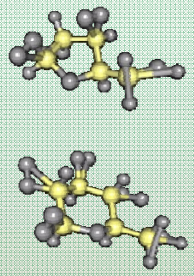
Site and Business plan as important
as technology >

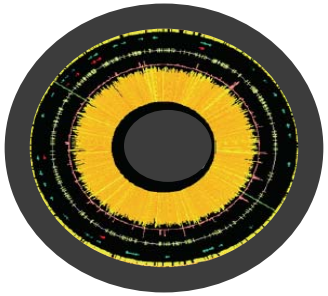
2nd wave technology:
Organic waste based

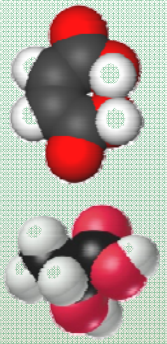


Today — **2009**

BioEnergy's Biorefinery Technology







The source

- Bagasse
- Rice straw
- Wood chips
- Paper Sludge

The feedstock

- C6 sugars
- C5 sugars

The technology

- Metabolic Engineering
- Directed Evolution
- Process Integration

The product

High value fuels & chemicals:

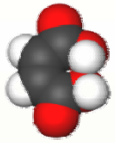
- Lactic acid
- Succinic acid
- Butanol
- Butanediol

BioEnergy's "software" will convert Today's "hardware" into Tomorrow's biorefineries.

Revolutionary technology - BioEnergy's "software" will convert today's "hardware" into tomorrow's biorefineries

Sugar feedstock

- Bagasse
- Rice straw
- Wood chips
- Municipal waste



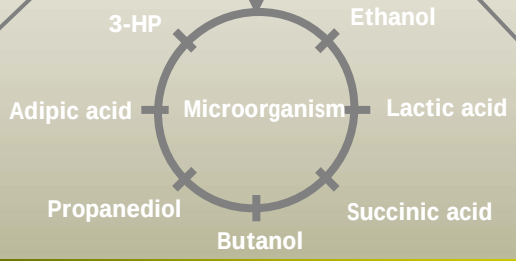
Products

- Biochemicals
- Bioplastics
- Biofuels

Cellulosic technology

Biocatalyst Fermentation "The Cell Factory"

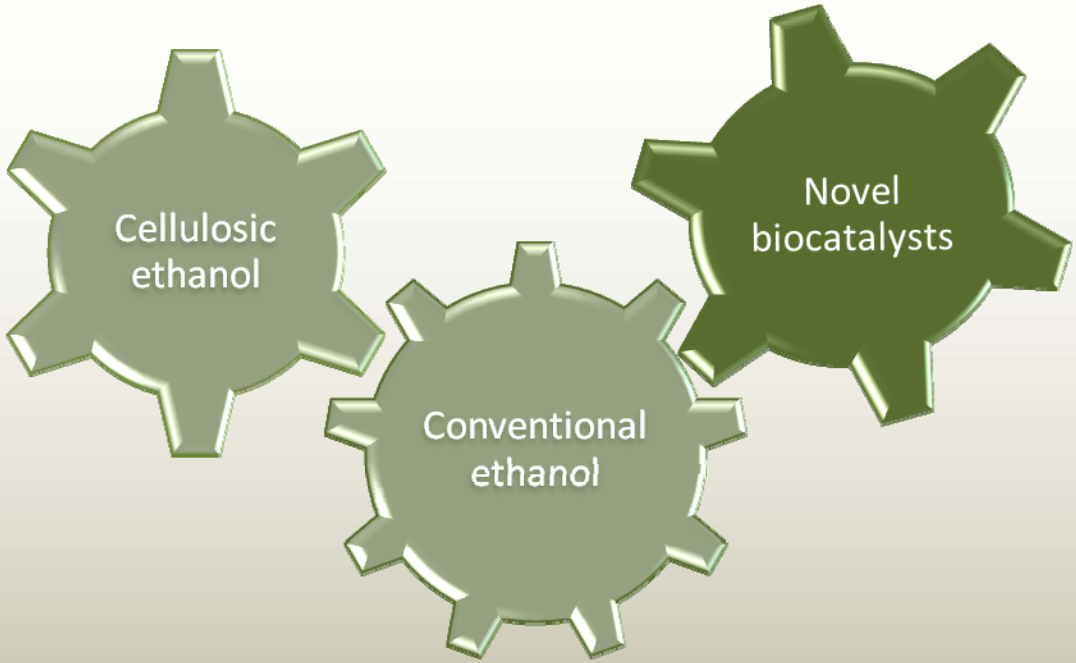
Biorefinery platform



BioEnergy's flexible microbial technology platform allows specified selection of chemicals to produce

Business Overview

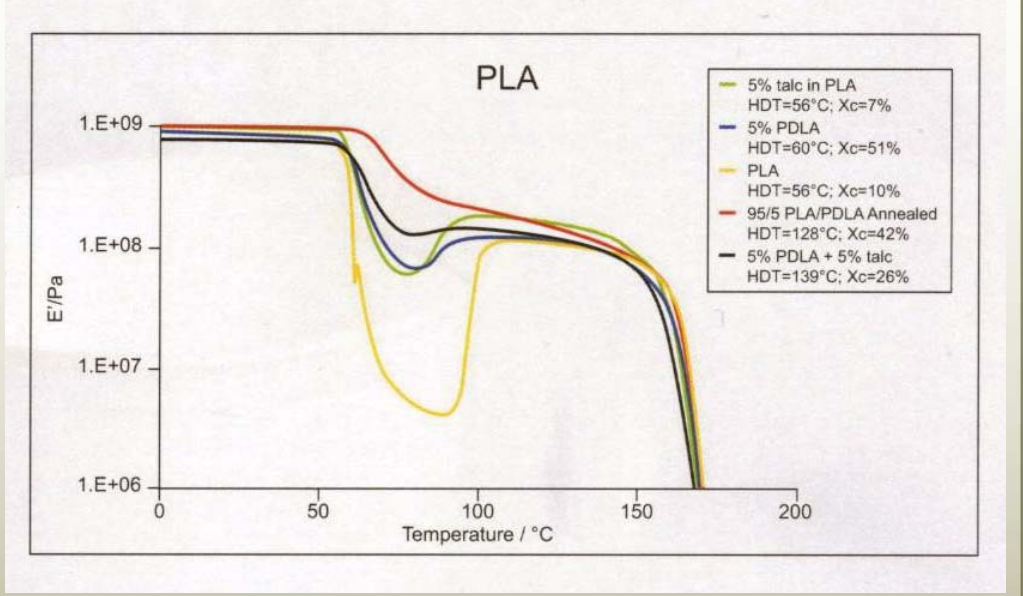
Novel Biocatalysts



Through the development of novel biocatalysts for use in state-of-the-art biorefineries, BioEnergy has pioneered a progressive, sustainable, and economically viable alternative to the traditional petroleum-based production of renewable fuels and high-value bio-based intermediates and polymer precursors.

Commercial D-lactic acid

- **BioEnergy broke the D-lactic acid code**
- **Product already in the market**



BioEnergy's Novel Biocatalyst Platform Game Changer

1,4 Butanediol

BioEnergy product

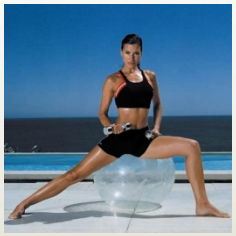
35 % THF

29 % PBT (polyester)

16% GBL

14% TPU

4% COPO



Pfizer

NIKE

speedo

DURACELL

TOYOTA

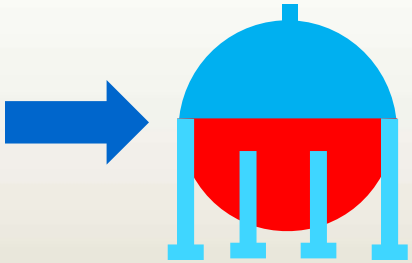
Cost versus Value

Corn

Sugar cane

Bagasse

Cost



BioEnergy Proprietary Technology

Value

Transforming the fuels, chemicals and energy industries with biotechnical advantage to push down cost and increase value

Status Quo of Oil is Unsustainable

Basic Chemicals
ethylene
propylene
Benzene
etc.

Fuels
gasoline
diesel
iet fuel

Plastics
PET
Polyester
Polyols
Polyurethanes
Nylon

CUSTOMERS

D-Lactic acid
Succinic acid
Propanediol
Butanediol
Adipic acid
HPA

Ethanol
Butanol

PLA
Polyester
Polyols
Polyurethanes
Nylon

CUSTOMERS

Thank You

Corinne Young, Director of Government Affairs

BioEnergy International, LLC